

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

1-3. (Cancelled)

4. (Currently Amended) A flooring comprising a polymeric binder, said binder being a mixture of both:

i) at least one polyolefin with a density $< 0.910 \text{ g/cm}^3$, wherein the at least one polyolefin is at least partially cross-linked, wherein the at least one polyolefin is a mixture of at least two ethylene copolymers, wherein the ethylene copolymer mixture comprises a copolymer (a) as the main polymer with a density of $0.89 - 0.91 \text{ g/cm}^3$ and a copolymer (b) to control rheology and elasticity with a density of $0.86 - 0.88 \text{ g/cm}^3$ and a melt flow index (MFI) > 3 , wherein the polyolefin is free from vinyl aromatic monomers; and

ii) at least one grafted copolymer, wherein the at least one grafted copolymer is maleic acid anhydride grafted HD polyethylene, wherein the proportion of the at least one grafted copolymer in relation to the total weight of the polymeric binder is 5% to 25% by weight, and wherein the polymeric binder is cross-linked with (a) at least one cross-linking agent based on an organic peroxide and, optionally, (b) at least one co-cross-linking agent ~~chosen~~selected from the group consisting of an isocyanuric acid derivative, or an acrylate or and a methacrylate derivative derived from a polyol, and wherein the resulting binder exhibits an indentation of 0.01 mm after 150 minutes according to DIN EN 433.

5. (Previously Presented) The floor covering as claimed in Claim 4, wherein the copolymers (a) and (b) are present at a weight ratio of 4:1 to 3:2.

6. (Previously Presented) The floor covering as claimed in Claim 4, wherein the copolymers (a) and (b) are copolymers of ethylene and octene.

7-8. (Cancelled)

9. (Previously Presented) The floor covering as claimed in Claim 4, wherein the at least one grafted copolymer comprises a degree of grafting of 1% to 5% by weight.

10-12. (Cancelled)

13. (Previously Presented) The floor covering as claimed in Claim 4, which further comprises a filler, a pigment, a processing aid, an antioxidant, a static eliminator, a UV stabilizer or a slip agent.

14. (Previously Presented) The floor covering as claimed in Claim 13, wherein the filler is a mixture of platelet-shaped and crystalline mineral intergrowths.

15. (Previously Presented) The floor covering as claimed in Claim 4, the polymeric binder further comprising one or more inorganic pigments to produce a variable color pattern and a homogeneous design.

16-25. (Cancelled)

26. (New) A flooring comprising a polymeric binder, said binder consisting of a homogeneous mixture of:

i) one polyolefin with a density $< 0.910 \text{ g/cm}^3$, wherein the one polyolefin is at least partially cross-linked, wherein the one polyolefin is a mixture comprising an ethylene copolymer with a density of $0.89 - 0.91 \text{ g/cm}^3$ and an octene copolymer to control rheology and elasticity with a density of $0.86 - 0.88 \text{ g/cm}^3$ and a melt flow index (MFI) > 3 ;

ii) maleic acid anhydride grafted HD polyethylene, wherein the proportion of the maleic acid anhydride grafted HD polyethylene in relation to the total weight of the polymeric binder is 5% to 25% by weight, and wherein the polymeric binder is cross-linked with one cross-linking agent based on an organic peroxide free of aromatic hydrocarbons;

iii) a mixture of triallyl isocyanurate and trimethylolpropane trimethacrylate; and

iv) a mixture of at least one process oil and 2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane, wherein the resulting binder exhibits an indentation of 0.01 mm after 150 minutes according to DIN EN 433.

27. (New) The floor covering as claimed in Claim 26, wherein the copolymers (a) and (b) are present at a weight ratio of 4:1 to 3:2.
28. (New) The floor covering as claimed in Claim 26, wherein the at least one grafted copolymer comprises a degree of grafting of 1% to 5% by weight.
29. (New) The floor covering as claimed in Claim 26, which further comprises a filler, a pigment, a processing aid, an antioxidant, a static eliminator, a UV stabilizer or a slip agent.
30. (New) The floor covering as claimed in Claim 29, wherein the filler is a mixture of platelet-shaped and crystalline mineral intergrowths.
31. (New) The floor covering as claimed in Claim 26, the polymeric binder further comprising one or more inorganic pigments to produce a variable color pattern and a homogeneous design.
32. (New) The floor covering as claimed in Claim 26, wherein the triallyl isocyanurate and trimethylolpropane trimethacrylate are present at a weight ratio of 1:3.
33. (New) The floor covering as claimed in Claim 26, wherein the process oil and 2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane are present at a weight ratio of 1:4.